

**BY ORDER OF THE COMMANDER
AIR MOBILITY COMMAND**

**AIR MOBILITY COMMAND
HANDBOOK 11-214**



20 APRIL 2011

Flying Operations

AMC AIRCREW HAZARDOUS MATERIALS

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RELEASABILITY: There are no releasability restrictions on this publication.

OPR: HQ AMC/A3VX

Certified by: HQ AMC/A3V
(Col Michael Cassidy)

Supersedes: AMCH11-214, 15 February 2008

Pages: 51

This handbook is published to provide AMC aircrews with a reliable quick reference for the proper handling and air transportation of hazardous materials. It consolidates procedures and restrictions found in diverse publications into a convenient single reference for aircrews. It will not be used in place of service and command directives or as the sole authority to displace or bump cargo. Each aircraft commander and loadmaster/boom operator is entitled to a copy of this handbook. It is suggested to carry this handbook on all missions away from home station.

SUMMARY OF CHANGES

This revision incorporates applicable changes to AFMAN 24-204(I); update to examples of POP/UN SPECIFICATION exempted packaging list 2.3.2. – 2.3.10.; 2.8.2 and 2.8.3.; Table 7.1; Deletes paragraph 7.4.1.2 and renumbered 7.4.1.3-7.4.1.8.; Table 18.2 change/adds notes; Attachment 2 Known leakers list.

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Chapter 1

HAZARD CLASSIFICATION

1.1. General.

1.1.1. Nine classes of hazardous materials have been established under the UN classification system. Hazard classifications are based on the chemical and physical characteristics of material and its reaction under various test conditions. Items or articles possessing more than one hazardous material or hazard are classed based on the highest hazard presented by the materials or combination of materials. Some materials are further subdivided into divisions to specifically identify the character and predominance of associated hazards. Below is the list of hazard classes and divisions with an illustration of each associated label.

1.2. Class 1 (Explosive).

1.2.1. Division 1.1. Materials in this division have a mass explosion hazard. An explosion would likely affect the entire load instantaneously. Examples: Charges; Demolition Charges, Shaped; Explosive, Blasting, Type A.

Figure 1.1. Division 1.



1.2.2. Division 1.2. Materials in this division present a projection hazard. This cargo will not mass detonate; however, explosions may occur individually or in combination. Examples: Ammunition, Smoke; Ammunition, Illuminating.

Figure 1.2. Division 1.



1.2.3. Division 1.3. Materials in this division present a fire hazard and a minor blast hazard or a minor projection hazard (or both), but not a major explosion hazard. Cargo loads consisting of this material may burn vigorously and be difficult to extinguish. Examples: Rocket Motors; Aerial Flares, various Fireworks.

Figure 1.3. Division 1.



1.2.4. Division 1.4. Materials in this division present a minor explosion hazard. Cargo loads consisting of this material present little or no hazard other than that associated with a fire. Examples: Cartridges for Weapons; Fuse, Safety; Hand Signal Device.

Figure 1.4. Division 1.



1.2.5. Division 1.5. Materials in this division include very insensitive explosives which have little probability of initiation or of transition from burning to detonation. Example: Explosive Blasting, Type B or Blasting Agents.

Figure 1.5. Division 1.

1.2.6. Division 1.6. Materials in this division are extremely insensitive articles which do not have a mass explosive hazard. Example: Articles, Explosive, Extremely Insensitive.

Figure 1.6. Division 1.

1.3. Class 2 (Gases).

1.3.1. Division 2.1. Materials in this division are flammable gases which may be ignitable when in a mixture with air. Examples: Acetylene, Liquefied Petroleum Gases, Aerosols (flammable).

Figure 1.7. Division 2.

1.3.2. Division 2.2. Materials in this division include a nonflammable, nonpoisonous compressed gas which either replaces oxygen normally in the atmosphere or provides oxygen to support combustion. Examples: Helium, Fire Extinguishers, Aerosols (nonflammable).

Figure 1.8. Division 2.



1.3.3. Division 2.3. Materials in this division present a poison (toxic) or corrosive inhalation hazard to humans. Degree of toxicity or inhalation hazard is described by zones. Zone A is the most hazardous. Examples: Arsine; Carbon Monoxide; Ethylene Oxide. (See Figure 1.9. for label).

Figure 1.9. Division 2.

Either Label is appropriate.



1.4. Class 3 (Flammable Liquid).

1.4.1. No Divisions. There are no divisions assigned to this class. Any liquid having a flashpoint of not more than 60.5 degrees C. or 141 degrees F is classified as a flammable liquid. Examples: Gasoline, Diesel, Isopropanol.

Figure 1.10. Class 3 Label.**1.5. Class 4 (Flammable Solid).**

1.5.1. Division 4.1. Materials in this division include wetted explosives, self-reactive material, and readily combustible materials. Examples: Celluloid, Sulfur, Titanium Hydride.

Figure 1.11. Division 4.

1.5.2. Division 4.2. Materials in this division are solids which are spontaneously combustible, pyrophoric or self-heating. Examples: Carbon; Maneb, Hafnium Powder.

Figure 1.12. Division 4.

1.5.3. Division 4.3. This division includes any materials which become flammable or give off a flammable (or toxic) gas when it comes in contact with water. Examples: Magnesium, Cerium.

Figure 1.13. Division 4.**1.6. Class 5 (Oxidizers and Organic Peroxides).**

1.6.1. Division 5.1. This division includes any material that may by yielding oxygen, cause or enhance the combustion of other materials. Examples: Zirconium Nitrate; Strontium Perchlorate; Sodium Chlorate.

Figure 1.14. Division 5.

1.6.2. Division 5.2. This division includes substances susceptible to exothermic decomposition when exposed to heat, impurities or impact. Examples: Organic Peroxide; Type D, Solid; Organic Peroxide; Type D, Liquid. Either label is acceptable.

Figure 1.15. Division 5.

1.7. Class 6 (Poisons and Infectious Substances).

1.7.1. Division 6.1. This division includes any material other than a gas, which is poisonous or toxic to humans if ingested, inhaled, or by skin contact. Examples: Barium Cyanide; Cyanide Solutions; Potassium Arsenate.

Figure 1.16. Division 6.



1.7.2. Division 6.2. Infectious Substances containing Category A microorganisms (or their toxins) known to cause disease in humans or animals. Example: Infectious Substances, Affecting Humans.

Figure 1.17. Division 6.

**1.8. Class 7 (Radioactive Material).**

1.8.1. No Divisions. There are no divisions assigned to this class. Radioactive material is any material having a specific activity greater than 0.0002 curies per gram. The level of radiation emitted from the container is identified by the appropriate label.

Figure 1.18. Class 7 Labels.**1.9. Class 8 (Corrosives).**

1.9.1. No Divisions. There are no divisions assigned to this class. A corrosive is a liquid or solid which causes visible destruction or irreversible alterations to human skin or causes severe corrosion to steel or aluminum. Examples: Batteries, Wet, Filled with Acid; Copper Chloride Hypochlorite solutions.

Figure 1.19. Class 8 Label.**1.10. Class 9 (Miscellaneous Dangerous Goods).**

1.10.1. No Divisions. There are no divisions assigned to this class. Includes items that are anesthetic, noxious, or have properties that are not covered by any other hazard class or cause annoyance or discomfort to passengers or aircrew. Example: Engines, Internal, Combustion; Dry Ice; Lithium Batteries, Consumer Commodity (for international shipment).

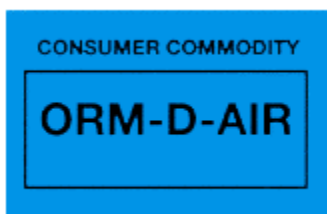
Figure 1.20. Class 9 Label.



1.11. Otherwise Regulated Material (ORM-D Consumer Commodity).

1.11.1. This is not a hazard class. This designation may only be used for shipments between domestic locations. Includes material packaged in small quantities suitable for retail sale to individuals for personal care or household use.

Figure 1.21. Consumer Commodity Labels.



Chapter 2

PACKAGING

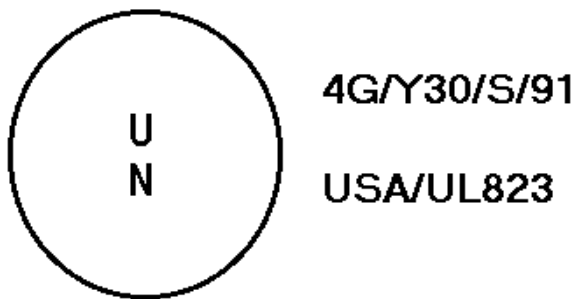
2.1. General.

2.1.1. Packaging is not a direct responsibility of the aircrew. However, it is important that individuals have a basic understanding of packaging requirements.

2.2. Performance Oriented Packaging (POP/UN SPECIFICATION).

2.2.1. UN Specification Packaging is based on testing effectiveness. The acronym "POP/UN SPECIFICATION" (Performance Oriented Packaging) is used to identify containers designed to meet specified levels of integrity and safety when subjected to performance tests. This testing is done at an approved facility and tested containers are then marked IAW internationally recognized codes to indicate compliance. For example:

Figure 2.1. Typical POP/UN SPECIFICATION Package Marking.



2.3. POP/UN SPECIFICATION Exempted Packaging.

2.3.1. Not all hazardous materials containers require POP/UN SPECIFICATION testing. While not regulated by international requirements, each country is expected to set standards for safe transport of exempted material. AFMAN 24-204(I) provides specific packaging criteria for hazardous items that are exempted. Examples of POP/UN SPECIFICATION exempted packaging include, but are not limited to:

2.3.2. Class 2 Compressed Gas Cylinders

2.3.3. Class 7 Radioactive Materials

2.3.4. Dry Ice

2.3.5. Magnetized Material

2.3.6. Life-Saving Appliances

2.3.7. Mercury Contained in Manufactured Articles

2.3.8. Items Identified in this manual as requiring "strong outer packaging"

2.3.9. Limited and Excepted Quantities

2.3.10. Packaging Which Exceeds 400 Kgs (882 Lbs) Net Mass or Packages Whose Capacity Exceeds 450 L (119 Gals). **Note:** Materials identified as being in **Excepted** or **Limited Quantities** require a different level of testing and are not POP/UN SPECIFICATION marked.

2.4. Palletized Cargo.

2.4.1. Bulk hazardous materials, without POP/UN SPECIFICATION markings on individual containers, which are placed on warehouse pallets or skids as a unitized load, may have POP/UN SPECIFICATION markings and other required markings and/or labels located on a marking board.

2.4.2. Unitized loads consisting of similar items which have POP/UN SPECIFICATION markings on individual containers, should have at least one container with the markings facing to the outside.

2.5. Overpack.

2.5.1. Single or multiple POP/UN SPECIFICATION approved containers may be placed in a single outer container for convenience or ease of handling, provided the materials are compatible.

2.5.2. The outer overpack container does not require POP/UN SPECIFICATION testing, but must be marked with the following statement: "OVERPACK".

2.6. Grandfather Clause.

2.6.1. Government-owned explosives (Class 1) packaged before 1 January 1990 are exempt from UN specification requirements. Ship these items under the packaging requirements in effect at the time of packaging. Shipping papers and Shipper's Declaration for Dangerous Goods (Key 19) will be annotated "Government-owned goods packaged prior to 1 January 1990." There is no requirement to mark containers with this statement.

2.7. Fuel Levels.

2.7.1. Specific instructions for preparing motor vehicles, self-propelled units, and engine powered support equipment for air shipment are found in service technical manuals. The following fuel in tank requirements apply (see Chapter 6 for exceptions):

2.7.1.1. Vehicles and self-propelled equipment are not to exceed one half tank of fuel.

2.7.1.2. Engine powered support equipment must be completely drained of fuel.

2.7.1.3. LPG, natural gas or other flammable gas powered vehicles must have the gaseous fuel emptied from fuel tank, lines, and regulator. Purging is not required.

2.7.1.4. Boats (or other watercraft) will be drained.

2.7.1.5. When external fuel tanks are transported as cargo they will be drained and purged and documented as such.

2.8. Empty Packaging.

2.8.1. The following items may be shipped as "Empty" if no other hazardous materials are present (i.e., wet-cell batteries).

2.8.1.1. Aircraft engines and internal combustion engines that have been drained and purged of flammable fuel. The purging fluid remaining within the engine will resemble and smell like fuel.

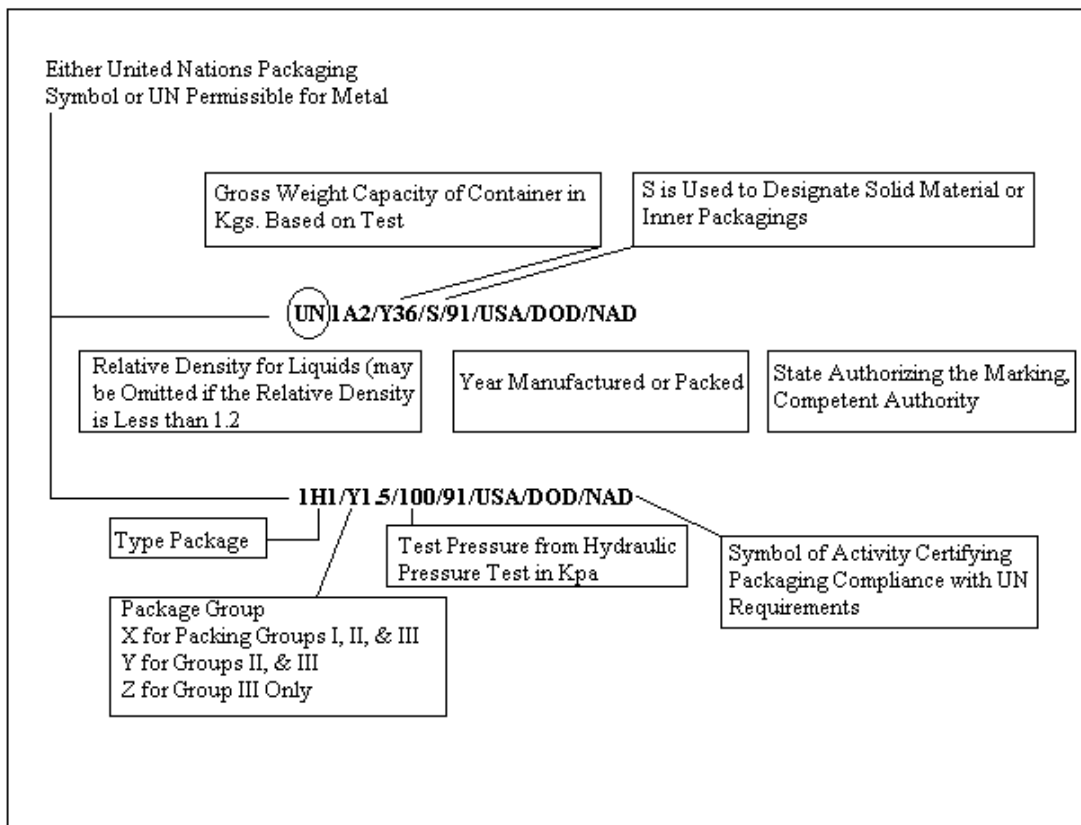
2.8.1.2. Compressed gas cylinders containing a nonflammable or nonpoisonous gas with a pressure reading at the gauge of 25 PSI.

2.8.1.3. Fuel tanks and other containers (i.e., jerricans) drained and completely purged of all fuel to include any residue.

2.8.2. An “EMPTY” label will be used on the outside of the container. Not required for equipment or articles unless packaged, crated, or otherwise enclosed to prevent ready identification.

2.8.3. A Shipper’s Declaration is not required if the Military Shipping Label is marked “Non-Hazardous” and/or the container is marked “Non-Regulated”

Figure 2.2. Typical UN Package Markings.



Chapter 3

MARKING AND LABELING

3.1. Marking.

- 3.1.1. Refer to Figure 3.1. for an example of marking and labeling information.
- 3.1.2. MIL-STD 129 governs requirements for the uniform marking of military supplies and equipment for shipment to include hazardous materials.
- 3.1.3. AFMAN 24-204(I) and other approved certification documents may also require additional markings for air transportation.

3.2. General Marking Requirements.

- 3.2.1. As a minimum, the appropriate PSN and corresponding UN, NA, or ID number must be on the outside of a package for the content(s) within.
- 3.2.2. Other markings, as required:
 - 3.2.2.1. "RQ" and/or "waste" will precede PSN when appropriate.
 - 3.2.2.2. POP/UN SPECIFICATION markings are normally located on the opposite side of the package from other markings.
 - 3.2.2.3. Flash point for flammable liquids in either Celsius or Fahrenheit.
 - 3.2.2.4. "Orientation" arrows are required for combination packages containing liquids and will be located on opposite sides of the container. A rectangular border around the arrows is optional.
 - 3.2.2.5. "THIS END (or SIDE UP)" may also be marked on the top of a container when "Orientation" arrows are used.
 - 3.2.2.6. "AIR ELIGIBLE" or "AIR APPROVED" indicates that the inner containers of a combination package have met pressure testing standards.
 - 3.2.2.7. "INHALATION HAZARD" identifies materials that pose an inhalation risk.
 - 3.2.2.8. "LIMITED QUANTITY" or "LTD QTY" is used to identify materials that meet this definition.
 - 3.2.2.9. "OVERPACK" identifies that inside container(s) have been placed in an overpack for ease of handling. All other markings, as appropriate, will also be on the overpack container.
 - 3.2.2.10. Hazardous materials packaged IAW a DOT Exemption or COE will be marked with the approval number, i.e., "DOT-E 6262."
 - 3.2.2.11. Packages marked/labeled as "Radioactive Material Excepted Package" does not require a Shipper Declaration for Dangerous Goods.

3.3. Hazard Class and Handling Labels.

3.3.1. Hazardous materials must have the appropriate label applied consistent with its hazard classification, unless exempted by regulation. Hazard labels are depicted in Chapter 1.

3.3.2. General labeling requirements:

3.3.2.1. Hazard class label will normally be located on same side as PSN.

3.3.2.2. A label is required for each hazardous material when compatible items consisting of different classes are packed in the same packaging or outside the container (overpack).

3.3.2.3. A subsidiary risk label, when required by the certification document, will be located near the primary label.

3.3.2.4. Hazardous waste is identified by the waste generator's name, address, and waste manifest number in addition to EPA warning statement. This is normally accomplished by a label similar to Figure 3.2.

3.3.2.5. "CARGO AIRCRAFT ONLY" label (Figure 3.3.) is used to identify cargo which passengers may not travel unless a deviation is approved.

3.3.2.6. "RADIOACTIVE MATERIAL" requires two labels that will be located on opposite sides of the package.

3.3.2.7. "EMPTY" label (Figure 3.6.) identifies a container, cylinder, engine, or other receptacle that formerly contained a hazardous material. See Paragraph 2.8.

3.3.2.8. A Class 9 - "MISCELLANEOUS DANGEROUS GOODS" label (figure 2.20) is not required when the article is not enclosed in packaging and is readily identifiable. (Motor vehicle, aircraft engines, wheeled support equipment, etc.)

3.3.2.9. A "MAGNETIZED MATERIAL" label (Figure 3.3.) will be used in place of a Class 9 "Miscellaneous Dangerous Goods" label for material that has a specified magnetic field that could affect flight.

3.3.2.10. An "OXYGEN" label (Figure 3.6.) may be used in place of a "NONFLAMMABLE" and "OXIDIZER" label for packages containing PSN: Oxygen, Compressed or Oxygen, Refrigerated Liquid.

3.3.2.11. A label containing "UN3373" (Figure 3.7) identifies infectious material classified as "Biological Material, Category B". Label may or not contain descriptive wording. This material does not require a Shipper's Declaration for Dangerous Goods.

3.3.2.12. A "Keep Away From Heat" label (Figure 3.8) will be used to identify self reactive substances in Class/Division 4.1. and Class/Division 5.2.

3.3.2.13. An aircraft within a circle along with the wording "Air Eligible" (Figure 3.9) may be used to meet requirements of paragraph 3.2.2.6.

3.3.2.14. "Radioactive Material Excepted Package" label (Figure 3.10) may be used to meet paragraph 3.2.2.11. This material does not require a Shipper's Declaration for Dangerous Goods.

3.3.2.15. Written text, i.e., “FLAMMABLE GAS.” which indicates the nature of the risk is optional except for “RADIOACTIVE MATERIAL,” “Cargo Aircraft Only,” “INFECTIOUS SUBSTANCES” and “MAGNETIC MATERIAL” labels.

3.3.2.16. A diamond label containing a UN number (See Figure 3.11 for an example) may be used to identify items in Limited Quantities.

3.3.2.17. Symbols, text, and numbers on labels will be black, except white may be used on labels which are green, red, or blue. Text and number on a "Corrosive" label must be white.

Figure 3.1. Typical Marking/Labeling.



Figure 3.2. Typical Hazardous Waste Label.

Figure 3.3. Magnetic Material Label.



Figure 3.4. Cargo Aircraft Only Label.



Figure 3.5. Empty Label.



Figure 3.6. Oxygen Label.



Figure 3.7. Biological Material, Category B Label.



Figure 3.8. Keep Away From Heat Label.

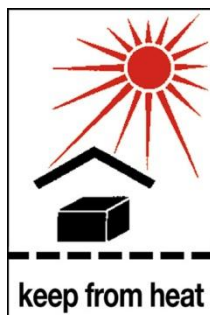


Figure 3.9. Air Eligible Label.



Figure 3.10. Radioactive Material Excepted Package Label.

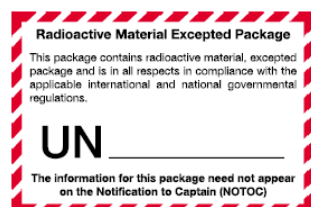


Figure 3.11. Limited Quantity Label (example).



Chapter 4

CERTIFICATION

4.1. Certification.

4.1.1. Hazardous materials may only be certified for airlift by personnel trained IAW AFMAN 24-204(I) and designated in writing by the installation or activity commander.

4.2. Certification References.

4.2.1. AFMAN 24-204(I) is the primary preparation and certification authority for hazardous materials transported by military airlift. However, other publications may be used, with certain restrictions:

4.2.1.1. International Air Transport Association (IATA), Dangerous Goods Regulation.

4.2.1.2. International Civil Aviation Organization (ICAO), Technical Instructions for the Safe Transport of Dangerous Goods By Air.

4.2.1.3. Title 49, Code of Federal Regulations (49 CFR).

4.2.1.4. Competent Approval Authority (CAA).

4.2.1.5. DOT Exemption (DOT-E) and DOD issued Certification of Equivalency (COE).

4.2.1.6. Waivers issued by service components.

4.2.1.7. IATA, ICAO, and 49 CFR include quantity per package limits for both passenger and cargo carrying aircraft which are not generally found in AFMAN 24-204(I). These regulations cannot be used when packaging limits dictate movement by "Cargo Aircraft Only" or for vehicles/wheeled support equipment.

4.2.2. Whenever a shipment is certified to a CAA, DOT-E, COE, or waiver, a copy of the document must accompany shipment.

4.3. Documentation Requirements.

4.3.1. Shipper's Declaration For Dangerous Goods. Hazardous materials entering the Defense Transportation System destined for military airlift must be certified by a qualified individual using a Shipper's Declaration For Dangerous Goods (Figure 4.1.). A Shipper's Declaration is not required for:

4.3.1.1. Material identified as being in "Excepted Quantities." Excepted Quantities will be identified by the use of the form shown in (Figure 4.3.) which will be attached to the container.

4.3.1.2. Infectious Substances, Category B when labeled IAW Figure 3.7.

4.3.1.3. Radioactive Material Excepted Packages when marked IAW Para. 3.2.2.11. or labeled IAW Figure 3.10.

4.3.1.4. Hand carried items identified in Chapter 6.

4.3.2. A Shipper's Declaration (when required) must accompany each piece of cargo shipped under one transportation control number (TCN). The Shipper's Declaration, attached to air cargo manifest, must have a vertical red hatch border.

4.3.2.1. A Shipper's Declaration with open format will use the following basic description sequence: "UN Number, PSN, hazard Class (Subsidiary Risk), Packaging Group." Example: "UN1366, Diethylzinc, 4.2 (4.3), PG I."

4.3.2.2. A Shipper's Declaration with a column format must have the "UN Number" as the first entry.

4.3.3. The Shipper's Declaration may be completed either manually (handwritten) or mechanically (typewriter, computer, etc.). Certification may be completed by a combination of manual and mechanical means. All entries must be clear and legible.

4.3.4. Pen and ink changes may be made to any key by the original certifying official. Keys 1 (only to the telephone number and not to the address), 2, 3, 5, 8, 9, and 19 may be changed without affecting certification. Personnel making a change to any key must sign next to or above the change. **Note:** Key 16 may be changed by aerial port when cargo is "split" to move on different aircraft. (See Table 4.2 for explanation of keys).

4.3.5. A Shipper's Declaration that is annotated or stamped "TRUE COPY" indicates the aerial port has replaced an original certification. A "TRUE COPY" must have the red border.

4.3.6. When packages containing items with different proper shipping names (PSN) are overpacked in a single container, a separate Shipper's Declaration must be available for each PSN. (See Chapter 6 for exceptions).

4.3.7. A DD Form 1387-2 may be required for some protected cargo, including many explosives. **Note:** The "Dash-2" will not be used as a certification document.

4.3.8. When an item is determined to be "Empty" or nonhazardous, the address block of the DD Form 1387, Military Shipment Label, will be annotated "Nonhazardous." A Shipper's Declaration is not required.

4.3.9. The Air Cargo Manifest will also include a last page(s) that provide(s) a summary of all hazardous materials and additional information concerning the cargo (Figure 4.4.).

4.4. Hazardous Waste.

4.4.1. Hazardous waste shipping requirements are similar to hazardous material shipping requirements with the same PSN, except shipments of hazardous waste must be accompanied with a hazardous waste manifest.

4.4.2. In addition to the Shippers Declaration hazardous waste must also be certified by use of a state or federal EPA "Waste Manifest" (Figure 4.5.).

4.4.3. The aircraft commander or designated representative will need to sign the "Waste Manifest," in Block 17, and retain a copy.

4.4.4. Flying units assigned to bases without an assigned number may not accept hazardous waste for transport into or out of domestic locations.

Figure 4.1. Shipper's Declaration for Dangerous Goods.

SHIPPER'S DECLARATION FOR DANGEROUS GOODS						
SHIPPER 1			AIR WAYBILL NO. 3 PAGE 4 OF 4 PAGES 4			
PHONE NUMBER: DSN: 2			SHIPPER'S REFERENCE NUMBER TCN: 5			
CONSIGNEE 2			6			
COMPLETED AND SIGNED COPIES OF THIS DECLARATION MUST BE HANDLED TO THE OPERATOR			WARNING Failure to comply in all respects with applicable Hazardous Materials/Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.			
TRANSPORTATION DETAILS THIS SHIPMENT IS WITHIN THE LIMITATIONS PRESCRIBED FOR: (DELETE NON-APPLICABLE)			AIRPORT OF DEPARTURE: 8			
PASSENGER AND CARGO AIRCRAFT 7			SHIPMENT TYPE: (DELETE NON-APPLICABLE) NON-RADIOACTIVE RADIOACTIVE 10			
AIRPORT OF DESTINATION: 9						
NATURE AND QUALITY OF DANGEROUS GOODS						
DANGEROUS GOODS IDENTIFICATION				QUANTITY AND TYPE OF PACKING		
UN or ID NO.	PROPER SHIPPING NAME	CLASS or DIVISION (SUBSIDIARY RISKS)	PACKING GROUP	QUANTITY AND TYPE OF PACKING	PACKING INST	AUTHORIZATION
11	12	13/14	15	16	17	18
ADDITIONAL HANDLING INFORMATION 19						
EMERGENCY TELEPHONE NUMBER:						
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked, and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national government regulations. I declare that all of the applicable air transport requirements have been met.				NAME/TITLE OF SIGNATORY 20		
				PLACE AND DATE 21		
				SIGNATURE (see warning above) 22		

AMC IMT 1033, 20050204, V1

Table 4.1. Key Entries for Shipper's Declaration.

SHIPPER'S DECLARATION ENTRIES
KEY 1: Shipper's address and telephone number.
KEY 2: Six-digit DODAAC or In-The-Clear geographical location of ultimate consignee. During mobility operations "Worldwide Mobility" may be shown. For infectious substances, enter also the name and telephone number of a responsible person for contact in an emergency.
KEY 3: Aircraft manifest number (Optional).
KEY 4: Page number and total number of pages, i.e., "Page 1 of 1 pages."
KEY 5: Transportation Control Number (TCN).
KEY 6: Inspection Stamp. Indicates location or unit, individual performing inspection, and date the cargo was inspected. This key must be annotated by the inspection function.
KEY 7: Identifies cargo as acceptable to be placed on either a passenger or cargo aircraft only IAW AFMAN 24-204(I).
KEY 8: Three-digit port of embarkation (POE) or In-The-Clear geographical location of departure airfield or base (optional). During mobility operations "Worldwide Mobility" may be shown.
KEY 9: Three-digit port of debarkation (POD) or In-The Clear geographical location of arrival airfield

or base. During mobility operations "Worldwide Mobility" may be shown.
KEY 10: Identifies whether or not cargo is a Radioactive Material.
KEY 11: United Nations (UN), North America (NA), or Identification (ID) Number assigned to a PSN, i.e., UN 3166, ID 8035, etc. NA numbers, i.e., NA 2291, may only be used for domestic shipments or between Canada and the United States.
KEY 12: Identifies cargo by proper shipping name (PSN). Technical names, when required, will be in parenthesis following the PSN. The words "Inhalation Hazard" will also appear for items which meet these definitions. PSN may be preceded by "Waste" when appropriate. "RQ" may follow the PSN, if required.
KEY 13: The hazard class or division assigned to material, i.e., 3, 1.1, 4.2, etc. Class/Division 1.2 may also have subdivisions assigned such as (i.e. 1.2.1, 1.2.2, or 1.2.3). These are used for aircraft parking. The letter following explosive class/divisions (1.1 E, 1.3G, etc.) is used to determine compatibility.
KEY 14: Entry required when an item has a subsidiary risk assigned. Subsidiary risk(s) will be shown in parenthesis following primary hazard classification (e.g.; 3(8), 8(3,6.1).
KEY 15: Packing Group (PG) I, II, or III, if required.
KEY 16: Identifies number and type of packaging and quantity per each package.
Examples:
"3 metal cans X 20 kgs NEW"
"4 wooden boxes (4D) X 1 liter". Entry of POP/UN Specification Packaging Codes, e.g., "4D" is optional.
Explosives will be identified by "Net Explosive Weight" (NEW) per package or pallet.
Radioactive Material will be identified by radionuclide name or symbol, form, and activity in each package.
Metric system measurements must be used. U.S. standards are optional.
"Overpack Used" to identify items packaged for consolidation or ease of handling.
KEY 17: Gives paragraph from the authorized certification reference used to prepare the package or material. When a separate letter, message, or other instruction, i.e., CAA is used, a copy must accompany the shipment.
KEY 18: Limited Quantity" or "LTD QTY" when item meets this definition.
KEY 19: Additional handling information. May include, but is not limited to:
Handling instructions when required.
Emergency response phone number. This number is to be used only when additional information is needed in the event of a leak or an accident.
PSN and hazard class of each secondary hazard for items with multiple hazards. For vehicles and equipment, the quantity of fuel in the tank/system will also be shown.
Note: This is not to be confused with subsidiary risk.
KEY 20: Name and title of the official signing the form.
KEY 21: Place and date the material was certified.
KEY 22: Longhand signature of the certifying official.

Figure 4.2. Dangerous Goods in Excepted Quantities Label.

DANGEROUS GOODS IN EXCEPTED QUANTITIES

This package contains dangerous goods in excepted small quantities and is in all respects in compliance with the applicable international and national government regulations and the IATA Dangerous Goods Regulations.

Signature of Shipper

Title

Date

Name and address of Shipper

This package contains substance(s) in Class(es)
(check applicable boxes)

Class:	2	3	4	5	6	8	9
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

and the applicable UN Numbers are:

Figure 4.3. Typical Manifest Summary Page.

UNCLASSIFIED

PREPARED: 00 JUN 05 20:27Z < 157 > FINAL AIR MISSION BRIEF SHEET < SUV > PCN: 0014DC628
FOR MISSION ID: PBP06E500156

PP	TCN	HAZARD CLASS	UN/NA	PIECES	WEIGHT	CUBE	NEW	PROPER SHIPPING NAME	DOD EXEMPT	DOD(COR)	CAA	WAIVER
APOD: HIK												
1	R0912401400775XXX	22	UN3159	1	8	1		2-TETRAFLUOROETHANE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	R2153301471767XAX	8	UN1760	1	13	1		CORROSIVE LIQUID NOS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	N00604013800K7XXZ	22	UN1956	1	13	1		COMPRESSED GAS, N.O.S	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	CL0KX301539736XXX	22	UN1956	1	24	1		COMPRESSED GAS NOS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	CL0KX301538474XXX	8	UN1805	1	28	1		PHOSPHORIC ACID SOLUTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	CL0KX301537909XXX	8	UN2800	1	782	32		BATTERIES WET NONSPILLABLE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TOTAL:				6	868	37						

MISSION RECAP			
	PIECES	WEIGHT	CUBE
HAZARDOUS CARGO TOTALS:	6	868	37
ORDINARY MAIL TOTALS:	0	0	0
SIGNATURE SERVICE TOTALS:	6	650	81
REGISTERED MAIL TOTALS:	1	8	0

YES/NO PASSENGERS AUTHORIZED
NUMBER OF PASSENGERS: 21

YES/NO ESCORTS/COURIERS/PROTECTIVE
YES/NO SECURITY CARGO/HAZARDOUS MATERIAL

*****AIR TERMINAL INSPECTION CERTIFICATION STATEMENT*****
ALL HAZARDOUS MATERIALS COVERED BY THIS MISSION HAVE BEEN INSPECTED AND FOUND TO BE PACKED IN THE PROPER OUTSIDE CONTAINER,
FREE OF VISIBLE DAMAGE AND LEAKS, AND IS PROPERLY CERTIFIED.
AIR TERMINAL REPRESENTATIVE SIGNATURE: Del Hamilton DATE: 5 JUN 00

*****AIR BRIEFING CERTIFICATION STATEMENT*****
I HAVE BEEN BRIEFED ACCORDING TO AFJMAN 24-204, PARAGRAPH 1.2.9, ON HAZARDOUS CARGO COVERED BY THIS MISSION.
AIRCRAFT CREWMEMBER SIGNATURE: Eric Simpson DATE: 5 JUN 00

UNCLASSIFIED
Page 1 of 1
PERSONAL DATA: (PRIVACY ACT 1974)

PCN: 0014DC628

Figure 4.4. EPA Hazardous Waste Manifest.

Please print or type. (Form designed for use on elite (12 Pitch typewriter)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of	Information in the shaded areas is not required by Federal law		
G E N E R A T O R	3. Generator's Name and Mailing Address			A. State Manifest Document Number			
	4. Generator's Phone ()			B. State Generator's ID			
	5. Transporter 1 Company Name		6. US EPA ID Number	C. State Transporter's ID			
	7. Transporter 2 Company Name		8. US EPA ID Number	D. Transporter's Phone			
	9. Designated Facility Name and Site Address		10. US EPA ID Number	E. State Transporter's ID			
				F. Transporter's Phone			
				G. State Facility's ID			
				H. Facility's Phone			
	11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)		12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
	a.						
b.							
c.							
d.							
J. Additional Description for Material Listed Above				K. Handling Code for Waste Listed Above			
15. Special Handling Instructions and Additional Information							
<p>16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this assignment are fully and accurately described above per proper shipping name and are classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway.</p> <p>If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment OR, if I am a small generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.</p>							
Printed/Typed Name			Signature		Month Day Year		
T R A N S P O R T E R	17. Transporter 1 Acknowledges Receipt of Material			Month Day Year			
	Printed/Typed Name			Signature		Month Day Year	
F A C I L I T Y	18. Transporter 2 Acknowledges Receipt of Material			Month Day Year			
	Printed/Typed Name			Signature		Month Day Year	
19. Discrepancy Indication Space							
20. Facility Owner or Operator: Certification of receipt of hazardous material covered by this manifest except as noted in item 19.							
Printed/Typed Name			Signature		Month Day Year		

Chapter 5

AIRCRAFT LOADING AND PASSENGER MOVEMENT

5.1. General.

5.1.1. When hazardous materials of various types or hazardous materials and passengers are loaded together on military aircraft they must be compatible for air transportation IAW AFMAN 24-204(I).

5.1.2. Waivers and Deviations.

5.1.2.1. The terms "Waiver" and "Deviation" are often misunderstood and misused when applied to the air transportation of hazardous materials. They are two different terms with two different meanings.

5.1.2.1.1. Deviations are a departure from established procedures in AFMAN 24-204 (I), for transporting of passengers with hazardous material.

5.1.2.1.2. Waivers are exceptions to the packaging or compatibility requirements of AFMAN 24-204 (I).

5.1.2.1.2.1. Approval authority for "waivers" pertaining to packaging of hazardous cargo is the Service's Focal Point as identified in AFMAN 24-204. MAJCOMs (including AMC and NAFs) may not authorize a "waiver" for hazardous materials.

5.1.2.1.2.2. The "waiver" approval number will be annotated in the packaging block of the Shipper's Declaration for Dangerous Goods. An example would be "AFMC 24-204-07-06".

5.1.2.1.2.3. A copy of the "waiver" approval must also accompany the shipment. Passengers may be carried with cargo that is shipped under an AFMAN 24-204 (I) packaging "waiver" provided the cargo is not "passenger prohibited"

5.1.2.1.2.4. Explosives compatibility waivers are issued by AMC/SEW. A copy must accompany shipment.

5.1.2.1.3. Passenger eligibility for movement on aircraft carrying hazardous materials is determined using AFMAN 24-204 (I), Table A4.1, Column 7, and table A4.2 Passenger Eligibility codes. Definitions of these codes are located in Table A4.2. Movement of passengers with hazardous materials coded as "CARGO AIRCRAFT ONLY" is authorized only if a deviation has been issued. When a deviation has been approved, type, print, or stamp all copies of the passenger manifest with the following information: "AUTHORITY TO MOVE PASSENGERS WITH CARGO ONLY AIRCRAFT CODED MATERIAL IS APPROVED. DEVIATION NUMBER_____."

5.1.2.1.4. When a deviation is issued it is in effect to the destination of the passengers/cargo that required the deviation. If an en route stop is made and additional hazardous cargo of another type/class is added, then a new deviation number is required from the controlling Air Force. If additional passengers or

hazardous cargo of the same type/class is added, no new deviation number is required. (AFMAN 24-204 (I))

5.1.2.1.5. It is important to remember that deviation requests are a traffic function and not an option of the aircrew.

5.2. Segregation Table for Hazardous Materials.

5.2.1. This table (Table 5.1.) identifies those explosives and other hazardous materials which may be airlifted together. If any hazard class or division is not listed on the table or a blank space occurs at an intersection of horizontal and vertical columns this indicates no restrictions apply. The letter "X" at an intersection of horizontal and vertical columns indicates these materials must not be placed on the same aircraft unless permitted by a note. The letter "O" at an intersection of columns indicates these materials must be separated by 88 inches in all directions. Only the primary hazard class or division is considered for compatibility. Subsidiary Risk and Secondary Hazards are not used to determine compatibility. The "*" at an intersection of the columns indicates required segregation among different CLASS 1 explosives is identified in Table 5.2.

5.2.2. Compatibility Table for Class 1 (Explosive) Material. (See Table 5.2.). This table identifies those explosives which must be segregated from other types of explosive because of possible adverse interactions. Compatibility restrictions to be used during tactical/contingency operations are located in Chapter 6 of this handbook. **Note:** Hazardous materials in "Excepted Quantities" are compatible with all cargo.

5.2.3. Should it become operationally necessary for incompatible items to be carried on the same aircraft, HQ AMC may issue a waiver. A copy of the waiver must accompany the cargo and all conditions of the waiver must be met.

5.3. Loading and Stowing.

5.3.1. Hazardous materials must be accessible in flight.

5.3.2. The aircrew will have access to any container except shipments accompanied by a letter signed by HQ AMC/A3.

5.3.3. Do not ship hazardous material in freight containers that are not easily accessible to the aircrew during flight. Physically stow hazardous materials next to the container opening and position to allow access while on the aircraft. The aircrew must have visual and physical access to all hazardous materials to mitigate any hazard posed by an in-flight incident. If there is evidence of a leak, the crew-member can locate the hazard, determine the extent of the risk, and take appropriate action to get the leak under control or declare an in-flight emergency. Ensure air transportation personnel have access to the contents for inspection. Provide a key to unescorted, locked containers to the aircraft commander or designated representative. Ship only the following hazardous materials in inaccessible containers or tactical shelters when properly secured:

5.3.3.1. Recompression vans, support vans, and shelters used by the Underwater Construction Team. Hazardous items inside these escorted containers have been identified to and approved for shipment by AFMC LSO/LOT.

5.3.3.2. Fire extinguishers secured in appropriate holders or brackets, or properly packaged according to this manual.

5.3.3.3. Vehicles, support equipment, or other mechanical apparatus. Completely drain (residual fuel not to exceed 17 oz) items fueled by a flammable liquid with a flash point at or above 38 degrees C (100 degrees F). Tightly seal fuel lines and tank to prevent residual fuel leaks. Drain and purge items fueled by a flammable liquid with a flash point below 38 degrees C (100 degrees F). Installed batteries must be nonspillable type or non-regulated and secured upright.

5.3.3.4. Items shipped under the PSN "Life Saving Appliances" and packaged according to this manual.

5.3.3.5. Air conditioners and environmental control units, magnetic material, radioactive material, and thermometers.

5.3.3.6. Class/division 1.4S explosives packaged according to this manual.

5.3.3.7. Non-flammable gases or non-flammable aerosols prepared according to this manual and packed in strong outer containers.

5.3.3.8. "Consumer Commodities" not containing a liquid or a flammable gas.

5.3.3.9. Explosives secured for air movement according to service drawings.

5.3.4. Containers, unit loads, and pallets must be loaded so that hazard labels are visible.

5.3.5. Hazardous materials (except dry ice) must not be placed on the same aircraft pallet with foodstuffs, animal feed, or any other edible material.

5.3.6. Aircraft Dash 9 loading manuals provide additional specific information on the loading of aircraft with hazardous materials.

5.3.7. Special Assignment Airlift Missions (SAAMs) must be used for Class 6.1, PGI, Hazard Zone A; Class 2.3, Hazard Zone A (or any class identified as a Hazard Zone A), Infectious Substances (Category A) and Class 1 Compatibility Group K.

5.3.8. Overboard Venting of Cryogenic Liquid Storage and Transfer Tanks. All cryogenic liquid storage and transfer tanks (unless excepted in AFMAN 24-204 (I)) must be vented overboard during transport. The shipper is responsible for providing specific venting instructions in the Shipper's Declaration of Dangerous Goods and for providing the equipment needed to vent the container overboard. Preparation and hookup of the vent system will be accomplished by qualified shipper or aircraft maintenance personnel IAW the procedures outlined in TO 37C2-8-1-127, Liquid Oxygen and Nitrogen Overboard Vent System, C-130, C-17 and C-5 series aircraft. ATOC prearranges for a qualified person to make the hookup at the desired time. Air terminal personnel and aircraft loadmasters/boom operators are not qualified to make the hookup.

5.3.9. Chemically Treated Lumber.

5.3.9.1. Although creosote oil treated lumber; i.e., railroad ties, and pentachlorophenol (PCP) treated wood are not regulated as hazardous materials, precautions must be taken when these materials are offered for military air shipment. Any creosote oil treated lumber must be completely wrapped in Kraft wax paper and taped for shipment. The treated lumber may be individually wrapped or bulk wrapped. Gloves will be worn when handling wood treated with PCP. Due to the pungent odor, the aircraft shall be vented as much as possible. Certification IAW AFMAN 24-204(I) is not required.

5.3.10. Fuel/Fluid Leaks (Cargo).

5.3.10.1. A leak is a loss of fuel or fluid at a rate, which is readily detected or seen. Five drops per minute from a cooling system, crankcase, gear case, or hydraulic system (although not regulated by AFMAN 24-204(I) is considered a leak. Fuel or brake system leaks, no matter how minor, will cause the item to be frustrated until repaired. A damp or discolored seal need not be considered a leak unless the above conditions exist. If an item is leaking fluid, less than five drops per minute, while running (not parked), absorbent material (Vermiculite, Speedy Dry, diatomaceous earth, etc.) and clean up materials (rags) will be shipped with the item. In flight, minimize the effects of the leak by using paper towel/contents of the Hazardous Cargo Spill Kit. Make an entry in the AFTO 781A noting the type of spill and fuselage station location. The loadmaster/boom operator will request that airfreight personnel at the next arrival station prepare a SF 364 IAW AFMAN 24-204(I), paragraph 1.9. Submit an AF 97, USAF Accident/Incident Report Worksheet at the next arrival station. Include the following in section 1:

- 5.3.10.1.1. Equipment nomenclature
- 5.3.10.1.2. Model number and transportation control number
- 5.3.10.1.3. Type fuel/liquid leaked
- 5.3.10.1.4. Location of the leak – be specific, i.e. fuel tank, line, etc
- 5.3.10.1.5. Adequacy of shipping documentation
- 5.3.10.1.6. Position of cargo – facing forward, aft, etc
- 5.3.10.1.7. Liquid spill amount (estimate)
- 5.3.10.1.8. Name of individual certifying equipment

5.3.11. Seawater (Saltwater) Spills in the Aircraft.

5.3.11.1. With the development of new fast attack and special operations boats that are being airlifted, the occurrence of seawater spills has increased. Saltwater will severely damage the airplane if not properly cleaned. It is imperative that seawater spills are diluted and cleaned as soon as practical to avoid permanent damage to the aircraft. To reduce the risk of damage, if this should occur, accomplish the following steps:

- 5.3.11.1.1. Dilute with fresh-water as soon as possible.
- 5.3.11.1.2. Wipe the area dry with a clean absorbent material, to include rollers and rail covers.
- 5.3.11.1.3. Make a write-up in the 781A describing the area of the spill (including station numbers and butt line locations).

5.3.12. Shipment of Non-Hazardous Batteries.

5.3.12.1. Recent technological advances have led to the development of an equipment/vehicle battery that is considered non-hazardous for transportation. These batteries will be secured and the battery terminals must be protected against short circuit. When non-regulated batteries are installed in equipment/vehicles, the shipper must alert the carrier that the item is non-hazardous. This will be accomplished by annotating

"Non-Hazardous Battery Installed" in key 8 of the Shippers Declaration for Dangerous Goods.

5.3.13. Aerial Bulk Fuel Delivery System (ABFDS) and Aerial Fuel Delivery and Dispensing System (ADDS).

5.3.13.1. ABFDS pillow tanks filled for use as operational equipment of the aircraft to deliver fuel to remote locations or refuel other aircraft are not cargo, thus not regulated by AFMAN 24-204. In this case, only a manifest is provided by the shipper. In all other cases, a cargo manifest and AFMAN 24-204 certification shall be provided by the shipper.

5.4. Passenger Movement.

5.4.1. Passengers/aeromedical evacuation patients may not travel with Special Provision 1- and 2-coded cargo. Passenger/aeromedical evacuation patient travel with "P3" cargo requires deviation approval by HQ AMC Tanker Airlift Control Center/Aerial Port Control Center (APCC). Aerial Ports may issue deviations for "P4"-coded cargo. When a deviation has been approved, the passenger/aeromedical evacuation patient manifest will be annotated with the following statement:

“AUTHORITY TO MOVE PASSENGERS/AEROMEDICAL EVACUATION PATIENTS WITH CARGO AIRCRAFT ONLY CODED MATERIAL IS APPROVED. DEVIATION NUMBER:_____.” **Note:** There is no requirement to enter "P" Codes on the Shipper's Declaration.

5.4.2. "P" codes apply as follows:

5.4.2.1. "P1" Transport on Special Assignment Airlift Missions only. Passenger/aeromedical evacuation patient deviations not authorized.

5.4.2.2. "P2" Transport on Cargo Aircraft Only. Passenger/aeromedical evacuation patient deviations not authorized.

5.4.2.3. "P3" Transport on Cargo Aircraft Only. Passenger/aeromedical evacuation patient deviations authorized. TACC/Aerial Port Control Center (APCC) is approval authority.

5.4.2.4. "P4" Transport on Cargo Aircraft Only. Passenger/aeromedical evacuation patient deviations authorized. The aerial port or TACC/APCC is approval authority.

5.4.2.5. "P5" No passenger restrictions. **Note:** There are no passenger/aeromedical evacuation patient restrictions for Excepted Quantities.

5.4.3. Passenger deviation requirements do not apply to:

5.4.3.1. Guards.

5.4.3.2. Couriers.

5.4.3.3. Technical escorts.

5.4.3.4. Maintenance personnel for aircraft transporting hazardous materials.

5.4.3.5. AMC mission observers (AMO).

5.4.3.6. Mission essential ground personnel (MEGP).

2.3 Other than Zone A		X	X	O	X		O					O	O	O	O	O	O			O
3		X	X	O	X				X	O		O	O	O	O	O		X		
4.1		X	X		X				X	O	O							X		O
4.2		X	X	O	X		O		X	O	O							X		X
4.3		X	X		X		O		X	O	O							X		O
5.1	1	X	X		X		O		X	O	O							X		O
5.2		X	X		X		O		X	O	O							X		O
6.1 Liquid PG I Zone A	4	X	X	O	X		O				X	X	X	X	X	X				X
7	2,3	X	O		X		O													
8 Liquid Only	4,5 6,7 8	X	X	O	X		O		X	O		O	X	O	O	O		X		

Legend: "*" See explosives compatibility table. "X" Items must not be loaded or stored together. "O" Items must not be loaded, stored, or transported together unless separated by 88 inches in all directions.

NOTES:

1. Ammonium nitrate fertilizer may be loaded, transported, or stored with Class 1.1 or 1.5 materials.
2. Do not load, transport, or store fissile class III radioactive material (Class 7) on the same aircraft with any other hazardous material.
3. Normal uranium, depleted uranium, and thorium metal in solid form radioactive materials (Class 7) may be loaded and transported with Class 1.1, 1.2, and 1.5 (explosives).
4. Do not load, transport or store cyanides or cyanide mixtures (Class 6.1) with any Class 8 materials.
5. Separate nitric acid (Class 8) in carboys by 2.2 m (88 inches) in all directions from other corrosives materials in carboys when loaded on the same aircraft.
6. Do not load, transport, or store charged electric storage batteries (Class 8) on the same aircraft with any Class 1.1 or 1.2.
7. Ship the following materials with each other and with all other hazardous materials without compatibility restrictions (ensure compliance with notes 4, 5, and 6):
 - 7.1. Class 6.1 toxic solids and liquids (other than PG I, zone A) see note 4 concerning restrictions for cyanides or cyanide mixtures.
 - 7.2. Class 8 solids
 - 7.3. Class 9 (including ORM-D)
 - 7.4. Excepted Quantities
 - 7.5. Containers or articles drained but not purged containing 500ml (17oz) or less of Class 3
8. Class 8 corrosive liquids must not be loaded above or adjacent to Class 4 (flammable solid) material or Class 5 (oxidizing) material.
9. Class 2.1 aerosol cans may be shipped with other incompatible items when separated in all directions by a minimum of 88 inches.
10. Items classified by a predominate hazard other than Class 1 but contain small amounts of explosive materials and assigned an explosive compatibility letter for storage may be shipped with Class 1 material according to Table 5.2. For example, Class 4.2G may be shipped with Class 1.3G.

Table 5.2. Compatibility Table.

Compatibility Group		A	B	C	D	E	F	G	H	J	K	L	N	S
A	Notes		X	X	X	X	X	X	X	X	X	X	X	X
B	1,2,8	X		X	X	X	X	X	X	X	X	X	X	
C	8	X	X				X	X	X	X	X	X		
D	8	X	X				X	X	X	X	X	X		
E	8	X	X				X	X	X	X	X	X		
F	3	X	X	X	X	X		X	X	X	X	X	X	
G	4,5,7,8	X	X	X	X	X	X		X	X	X	X	X	
H		X	X	X	X	X	X	X		X	X	X	X	
J		X	X	X	X	X	X	X	X		X	X	X	
K		X	X	X	X	X	X	X	X	X		X	X	
L	6	X	X	X	X	X	X	X	X	X	X		X	X
N		X	X				X	X	X	X	X	X		
S	7,8	X										X		

Legend: X= articles must not be loaded or stored together, except as noted. **Blank**= no restrictions

NOTES:

1. Group "B" explosives UN0255, 0257, UN0267, and UN0361 may be loaded and transported with groups "C," "D," and "E" explosives on cargo aircraft only. Passenger deviations are not authorized.
2. Group "B" explosives packaged in an EOD MK 663, MOD O container may be loaded and transported with groups "C" through "H" and group "S" explosives.
3. Group "F" explosives UN 0292 may be loaded and transported with groups "C," "D," and "E" explosives on cargo aircraft only. Passenger deviations are not authorized.
4. Group "G" explosives UN 0019, UN 0300, UN 0301, and UN 0325 may be loaded and transported with all other explosives compatible with group "S" explosives on cargo aircraft only. Passenger deviations are not authorized.
5. Group "G" explosives UN 0009, UN 0018, UN 0314, UN 0315, UN 0317, UN 0319, and UN 0320 may be transported with groups "C," "D," and "E" explosives on cargo aircraft only. Passenger deviations are not authorized.
6. Group "L" explosives must only be loaded and transported with an identical item.
7. Class 1.1 and 1.2 explosives may not be shipped with UN 0333, UN 0334, UN 0335, UN 0336, and UN 0337.
8. Class 1.4, Compatibility Groups B and G may be loaded and transported together or with Class 1.4 Compatibility Groups C, D, and E on cargo aircraft only.

Chapter 6

TACTICAL, CONTINGENCY AND EMERGENCY AIRLIFT

6.1. Definitions.

6.1.1. Tactical. The movement of personnel, equipment, and supplies belonging to an organization or unit, so they may accomplish their immediate combat objective.

6.1.2. Contingency. An emergency involving military forces, caused by natural disasters, terrorists, subversives, or by required military operations. Due to the uncertainty of the situation, contingencies require plans, rapid response, and special procedures to ensure the safety and readiness of personnel, installations, and equipment.

6.1.3. Emergency. The movement of personnel, equipment, and supplies of an organization so they can respond to a non combat (i.e. natural disaster) event requiring special and immediate action.

6.2. Applicability.

6.2.1. AFMAN 24-204(I), Chapter 3 allows for some relaxation of the requirements for preparing, packing, and certification of hazardous materials during Tactical, Contingency or Emergency operations. These operations are commonly referred to as "Chapter 3" movements.

6.2.1.1. Chapter 3 movements impose an increased risk to the aircraft, crew, and deploying unit's mission accomplishment.

6.2.1.2. Use of "Chapter 3" must be directed in an OPlan for continuing operations or approved by TRANSCOM. TRANSCOM approvals will be annotated on Form 59.

6.2.1.2.1. USTRANSCOM Joint Mobility Operations Center (JMOC) approves the use of provisions of this chapter for airlift missions not identified in the OPlan. The Service/MAJCOM having operational control of the deploying unit must justify the applicability of this chapter in the airlift request.

6.2.1.3. Provisions of this chapter may be used for Joint Chiefs of Staff (JCS), component, and unilateral mobility exercises designed to simulate and evaluate responsiveness to tactical, contingency, or emergency situations requiring airlift when use is identified in OPlans.

6.3. Certification.

6.3.1. Palletized, packaged, or containerized hazardous materials not hand carried as individual issue must be certified using the Shipper's Declaration.

6.3.2. Vehicles and support equipment require a Shipper's Declaration.

6.3.3. Multiple items may be listed on one Shipper's Declaration if pallet is assigned a single TCN.

6.3.4. A Shipper's Declaration is not required for hand carried individual issue hazardous materials. The troop commander or team chief is responsible to brief the aircrew on any hand carried hazardous items.

6.3.5. A Shipper's Declaration is required for airdrop loads containing hazardous materials.

6.3.6. Hazardous materials may be accepted by the aircraft commander without the normally required certification documents during a combat situation which would prevent proper documentation.

6.4. Packaging.

6.4.1. Unless otherwise exempted, POP/UN SPECIFICATION marking and labeling requirements apply to palletized, packaged, and containerized hazardous materials.

6.4.2. Hazardous materials may be removed from applicable POP/UN SPECIFICATION packaging when approved by airdrop rigging manual.

6.4.3. Hazardous materials may be removed from authorized shipping container(s) and placed in approved tactical vehicle or equipment racks IAW authorized technical publications.

6.4.4. Individual Issue (Basic Combat Load). Hazardous materials may be removed from approved packaging when personnel will immediately engage an enemy force upon deplaning (includes airdrop) if:

6.4.4.1. Safe from accidental initiation.

6.4.4.2. Consolidated in one central location or as directed by the loadmaster/boom operator. Items will be distributed upon landing or prior to jump.

6.4.4.3. Small arms type ammunition; nuclear biological and chemical (NBC) equipment and first aid kits may be retained provided they remain within individual carriers, i.e., pouches, mobility bags, etc.

6.4.4.4. Troops not immediately engaging hostile forces but assuming a tactical role upon arrival will have all hazardous materials collected and consolidated at the direction of the loadmaster/boom operator. **Note:** Individuals rigged for airdrop prior to takeoff may retain their basic load.

6.4.5. Mobility bins or similar containers may be used provided hazardous materials are:

6.4.5.1. Packaged in approved containers which are properly marked and labeled.

6.4.5.2. Compatible.

6.4.5.3. Accessible in flight.

6.4.5.4. The outside of mobility bins or containers containing hazardous cargo will be marked and labeled for contents."

6.4.6. Hazardous materials (except Divisions 2.3, 6.1, and 6.2) may be placed on the same pallet with meals ready to eat (MRE) if separated by at least 44 inches and not placed above MREs. This restriction does not apply to Class 1 explosives.

6.5. Spare Fuel.

6.5.1. Spare fuel for vehicles and equipment must be transported in approved POP/UN SPECIFICATION tested and marked containers and jerricans when floor loaded, palletized, or secured in/on vehicles and equipment. DOT-5L jerricans may only be shipped drained.

6.5.2. POP/UN Specification containers and jerricans secured in permanent authorized racks mounted on or to a vehicle or wheeled support equipment do not require separate certification. DOT-5L jerricans may only be shipped drained.

6.5.3. Bulk flammable liquids may be transported in airworthy collapsible fabric drums (500 gallon fuel bladders).

6.5.4. Non-POP/UN Specification containers, jerricans, and bulk packaging (other than the 500 gallon fuel bladder) may only be shipped with an approved Service Focal Point waiver.

6.6. Fuel-In-Tank Limits.

6.6.1. Fuel quantities identified in this paragraph are for deployments based on requirements established by the operational commander. Fuel levels for redeployments will not exceed fuel-in-tank limits established for channel missions (see Chapter 2 of this handbook) unless unit mission requirements dictate they remain in an operational mode.

6.6.1.1. Vehicles/self-propelled units and support equipment. **Note:** See [Attachment 2](#) for "Leaker" List.

6.6.1.2. Vehicle fuel level will not exceed 3/4 tank capacity when placed on aircraft cargo floor and 1/2 full tank loaded on cargo ramp.

6.6.1.3. When vehicles are loaded on aircraft with steep angles of ascent, (KC-135, KC-10, etc.) the limit will be 1/2 full tank.

6.6.1.4. Engine powered wheeled support equipment will not exceed one half full tank.

6.6.1.5. If palletized, draining is required unless palletized to meet aircraft subfloor requirements.

6.6.1.6. Equipment mounted on a single axle disconnected from its prime mover and loaded with tongue resting on aircraft floor must be drained (purging is not required).

6.6.1.7. Engine powered ground support equipment (non-wheeled) must be drained, but no purging is required. This also applies to equipment carried as a "Secondary" load on trailers or vehicles.

6.6.2. Bulk transporters.

6.6.2.1. Servicing trucks, trailers, and semitrailers containing bulk flammable fuel with a flashpoint of 100 degrees F (38 degrees C) or less or another hazardous material must be purged unless technical order allows no more than 5 gallons to remain in the tank and lines. The technical order must be annotated in Key 19 of the Shipper's Declaration. Purging is not necessary.

6.6.2.2. Servicing trucks, trailers, and semitrailers bulk tanks containing a flammable liquid which has a flashpoint above 38 degrees C (100 F) or a nonhazardous material must be drained to the greatest extent possible unless technical order allows no more than 5 gallons to remain in the tank and lines. The technical order must be annotated in Key 19 of the Shipper's Declaration. Purging is not necessary.

6.6.2.3. Tanks tested to transport bulk nonhazardous materials are excepted from above restrictions.

6.6.3. Boats and other watercraft must be drained unless rigged for airdrop.

6.7. Lithium Batteries.

6.7.1. Batteries (new or used) may be transported when installed in electronic equipment. Handcarried equipment does not require certification.

6.7.2. Spare batteries needed to meet mission requirements, which are in their original or nonconductive wrapping, may be carried in pockets, rucksacks, etc. Certification is not required.

6.7.3. Packaged batteries must be in approved shipping containers.

6.7.4. Used batteries may be airlifted when wrapped in nonconductive material. Batteries must be properly packaged prior to further airlift on channel missions.

6.7.5. Batteries which are deactivated by a built-in complete discharge devices (CDD) are considered nonhazardous.

6.7.6. Damaged batteries will not be airlifted without waiver approval.

6.7.7. Small personal-type equipment, e.g., laptops with installed batteries do not require certification when shipped as cargo or when hand carried.

6.7.8. Use a chemical, CO2, Class D, or specific fire extinguisher for lithium metals, or deluge area with water to prevent spread of fire involving lithium batteries. Halon fire extinguishers are ineffective in combating fires involving primary (non-rechargeable) lithium batteries.

6.8. Compatibility.

6.8.1. Compatible hazardous materials (Tables 5.1. and 5.2.) may be transported without restriction.

6.8.2. The load planning function is responsible to ensure incompatible hazardous materials are separated by the maximum distance possible and still meet mission requirements consistent with operating plans.

6.8.3. Air Force approved assembled munitions packages (STAMP/STRAPP, TARPP, Complete Round Rigging, etc.) have been previously reviewed and approved to allow noncompatible explosives on the same pallet.

6.9. Captured Ammunition.

6.9.1. Captured ammunition may be airlifted on either tactical or nontactical missions if items are determined safe by Explosive Ordnance Disposal (EOD) personnel. A copy of EOD certification in addition to a Shipper's Declaration must accompany shipment.

6.9.2. Foreign ammunition must be airlifted in POP/UN SPECIFICATION approved shipping containers.

6.10. Transporting Foreign Troops.

6.10.1. Hazardous materials belonging to non-U.S. military units may be transported using same guidelines as for US forces to include hand-carried items.

6.10.2. Packaged hazardous materials must be marked and labeled to properly identify contents.

6.10.3. Foreign certification documents may be used in lieu of the Shipper's Declaration. As a minimum, the PSN (in English), UN Number, Hazard Class or Division, and packaging group (if required) must be shown on the certification document.

6.11. Transporting Passengers.

6.11.1. "Space-A" and duty passengers (not related to mission) may be transported on a tactical/contingency/emergency validated mission provided:

6.11.1.1. Troop carried individual issue hand carried hazardous materials is limited to small arms ammunition, NBC equipment, and first aid kits.

6.11.1.2. Other hazardous materials to include vehicles and wheeled support equipment, are in their proper shipping configuration or packaging which would allow transportation during channel airlift.

6.11.1.3. Passenger deviation approved by TACC/APCC or Aerial Port, as appropriate when required for P3- or P4-coded cargo.

6.12. Presidential Support Missions.

6.12.1. Shipper's Declarations are **not** required for "Phoenix Banner, Silver, and Copper Operations."

6.12.2. The aircrew will be briefed by shipper's representative on hazardous materials being shipped.

6.12.3. Fuel in tank limitations are the same as those found in paragraph 6.6.

Chapter 7

AIRCREW RESPONSIBILITIES

7.1. General.

7.1.1. Operational procedures for the airlift of hazardous materials are found in AFJI 11-204 and implemented in Vol 3 of AFIs 11-2C-130, 11-2C-5, 11-2C-17, 11-2KC-10, and 11-2KC-135 or others as appropriate. The following is an outline of some of your responsibilities:

7.2. Briefings.

7.2.1. As a minimum, the aircraft commander and/or designated crewmember must be briefed at the base of departure concerning onboard hazardous materials, including the following information:

- 7.2.1.1. PSN, Hazard Class or Division and UN, NA, or ID number.
- 7.2.1.2. Quantity of each hazard class by gross weight.
- 7.2.1.3. The NEW for Division 1.1 through 1.3 explosives.
- 7.2.1.4. Not used.
- 7.2.1.5. Total net quantity of any toxic chemical ammunition or highly toxic substances.
- 7.2.1.6. Location on aircraft.
- 7.2.1.7. Passenger restrictions.
- 7.2.1.8. Smoking restrictions.
- 7.2.1.9. Special requirements, i.e., couriers, protective equipment, etc.
- 7.2.1.10. Cargo being carried under DOT exemptions, COE, a CCA or a waiver.

7.2.2. If any of the above is omitted, request it before accepting cargo. Check air cargo manifest (and attached Shipper's Declarations) before signing.

7.2.3. See Chapter 6 of this handbook for procedures during tactical/contingency operations.

7.3. Border Clearance and Diplomatic (DIP) Clearances.

7.3.1. Aircrews are required to check the Foreign Clearance Guide (FCG) for DIP Clearance requirements prior to departure on international flights transporting Hazardous Materials. If DIP Clearance is required the crew will verify that clearance has been granted prior to departure. **Note:** Generally, DIP clearances are required for only "Hazardous Cargo" required for flight plan annotation IAW paragraph 7.4.

7.4. Flight Plans.

7.4.1. Flight plans will be annotated "Hazardous Cargo" when any amount of the following is transported:

- 7.4.1.1. Division 1.1 through 1.3 explosives.
- 7.4.1.2. Toxic chemical ammunition (Compatibility Group K).
- 7.4.1.3. Highly toxic substances.

7.4.1.4. Division 6.2 infectious substances which require technical escorts and/or special protective equipment.

7.4.1.5. Nuclear weapons.

7.4.1.6. Class 7 Radioactive Material (Yellow III label).

7.4.1.7. All other hazardous materials, except Class 9 and ORM-D when aggregate gross weight exceeds 1,000 pounds (454 kgs).

7.5. Departure/Arrival Notifications.

7.5.1. Prior to departure, verify airfield controlling agency.

7.5.2. Forward hazardous materials information to emergency response agencies.

7.5.3. Include hazardous materials information in the departure message, if required.

7.5.4. If ETA is less than 1 hour, or other circumstances preclude message receipt at destination, provide hazardous information by priority telephone.

7.5.5. At least 30 minutes prior to ETA, check with destination to verify that hazardous material notification information, if required, was received.

7.5.6. If not, unless prohibited by the theater commander or FLIP planning, contact controlling agency at destination and provide as a minimum:

7.5.6.1. PSN.

7.5.6.2. Hazard class.

7.5.6.3. UN, NA, or ID number.

7.5.6.4. NEW for Class 1 (Explosives).

7.5.6.5. Not used.

7.5.6.6. Net quantity of chemical ammunition and toxic substances.

7.6. Aircraft Parking.

7.6.1. Parking of aircraft carrying hazardous materials is the responsibility of the host airfield.

7.6.2. The following is provided for information only:

7.6.2.1. Aircraft transporting Division 1.1 and 1.2 explosives, nuclear weapons, and Hazardous Materials requiring a SAAM, i.e., Toxic Chemical Ammunition, are normally parked at remote (Hot) spots.

7.6.2.2. Divisions 1.3/1.4 explosives may or may not require "HOT" spot parking depending on quantity of explosives.

7.6.2.3. Transit aircraft with explosives, when cargo is not handled, may be parked at isolated locations other than "HOT" spots.

7.6.2.4. Other hazardous materials normally do not require remote or isolated parking.

7.6.2.5. Military installations are responsible for proper placarding of aircraft. If non-DOD airfields are used, it may be necessary for the aircrew to placard aircraft. Placards resemble hazard labels. See Table 7.1.

7.7. Leaking Cargo.

7.7.1. Spill containment kits must be carried on all aircraft transporting liquid hazardous materials.

7.7.2. Notify destination of any inflight leaks and request maintenance, fire department or other personnel be available for clean up, as required.

7.7.3. Complete AMC Form 97, **AMC In-flight Emergency and Unusual Occurrence Worksheet**.

7.8. Jettison Authorization.

7.8.1.

7.8.2. Class 6.1, PG I, hazard zone A toxic material, Class 2.3, hazard zone A toxic material, infectious substances, biological agents, or radioactive material may not be jettisoned over water unless the cargo size/weight (100 lbs./ft³) ensures sinking. The jettison location must be jettisoned at least (12 miles) offshore and preferably beyond a shelf, in water 100 fathoms (600 ft) or more in depth. The aircraft commander is briefed on acceptable jettisoning locations based on the above criteria.

7.8.3. For other hazardous materials requiring technical escorts, follow guidance provided by escorts.

7.8.4. Other hazardous materials may be jettisoned over land or water if essential to flight safety.

Table 7.1. Area Placard Required for Parked Area Aircraft Containing Hazardous Cargo.

Hazard Class/Division (Any Quantity)	Type of Placard
1.1	EXPLOSIVES 1.1
1.2	EXPLOSIVES 1.2
1.3	EXPLOSIVES 1.3
2.3	TOXIC GAS
4.3	DANGEROUS WHEN WET
5.2 (Organic peroxide, Type B, liquid or solid temperature controlled)	ORGANIC PEROXIDE
6.1 (Inhalation hazard Zone A or B)	TOXIC INHALATION HAZARD
7 (Radioactive Category III-Yellow label only)	RADIOACTIVE
Hazard Class/Division (1,000 Pounds or Gross Weight)	Type of Placard
1.4	EXPLOSIVES 1.4

1.5	EXPLOSIVES 1.5
1.6	EXPLOSIVES 1.6
2.1	FLAMMABLE GAS
2.2	NONFLAMMABLE GAS
3	FLAMMABLE
4.1	FLAMMABLE SOLID
4.2	SPONTANEOUSLY COMBUSTIBLE
5.1	OXIDIZER
5.2 (Other than organic peroxide, Type B, liquid or solid, temperature controlled)	ORGANIC PEROXIDE
6.1 (Other than inhalation hazard, Zone A or B)	TOXIC
6.2	NONE REQUIRED
8	CORROSIVE
NOTE: A “Dangerous” Placard may be used in place of separate placards for two or more categories of hazardous materials (other than those requiring mandatory placarding) when aggregate gross weight exceeds 1,000 pounds (454Kg).	

BROOKS L. BASH, Major General, USAF
Director of Operations

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFMAN 24-204 (I), *Preparing Hazardous Materials for Military Air Shipments*, 1 September 2009

Abbreviations and Acronyms

AMC—Air Mobility Command

COE—Certificate of Equivalency

CA—Competent Authority

CAA—Competent Authority Approval

CFR—Code of Federal Regulations

DOD—Department of Defense

DOT—Department of Transportation

DTS—Defense Transportation System

EOD—Explosive Ordnance Disposal

EPA—Environmental Protection Agency

FLIP—Flight Information Publication

IATA—International Air Transportation Association

ICAO—International Civil Aviation Organization

ID—Identification

IHC—Interim Hazard Class

KPA—Kilopascal

LTD QTY—Limited Quantities

NA—North America

NBC—Nuclear, Biological, and Chemical

NEW—Net Explosive Weight

N.O.S.—Not Otherwise Specified

OPR—Office of Primary Responsibility

PG—Packaging Group

POD—Port of Debarkation

POE—Port of Embarkation

POP/UN SPECIFICATION—Performance Oriented Packaging

PSI—Pounds Per Square Inch

PSN—Proper Shipping Name

RQ—Reportable Quantity

SAAM—Special Assignment Airlift Mission

STAMP—Standard Air Munitions Package

STRAPP—Standard Tank Rack Adapter and Pylon Package

TARRP—Tactical Airlift Rapid Response Package

TCN—Transportation Control Number

UN—United Nations

Terms

Binary Munitions.—Munitions that contain two or more chemical agents that remain separated until use. When stored or transported separately, each agent is not considered a toxic chemical.

Certificate of Equivalency (COE).—DOD approved packaging which meets or exceeds DOT standards.

Combination Packaging.—One or more inner receptacles secured in an outer package and tested in this configuration as safe for transport.

Compatibility Groups.—Alpha character that is part of hazard class/division assigned to explosives and ammunition, i.e., 1.1E, 1.4S, 1.3G, etc. Compatibility groups are used to determine those items that may be transported together without significantly increasing the probability of an accident or the magnitude of effects in the event of a mishap.

Competent Authority (CA).—A national agency responsible under its national law for the control or regulation of hazardous materials transportation. The Department of Transportation (DOT) is the CA for the United States.

Competent Authority Approval (CAA).—A written approval granted by the DOT that identifies specific methods of packaging for which the United Nations requirement has not been established.

Composite Packaging. An outer packaging and inner receptacle so constructed that once assembled remains an integrated single unit.

Consumer Commodity. A material that is packaged in small quantities intended or suitable for personal or household use. Identified by "ORM—D" classification for domestic shipment. Class 9 hazard classification is used for international shipments and may be used for domestic shipments.

Defense Transportation System (DTS).—Military controlled or operated terminal facilities, aircraft, sealift and government controlled air and land transportation.

Domestic Shipments.—Shipments between the United States (including Alaska and Hawaii) and territories or possessions, i.e., Puerto Rico, Virgin Islands, Guam, etc.

Excepted Quantities.—Very small quantities of hazardous materials that are excepted from most testing, marking, loading, compatibility, and certification requirements necessary for other hazardous items.

Explosive.—A substance or mixture of substances which under external influences are capable of rapidly releasing energy in the form of gas and heat.

Explosives.—All ammunition, explosive fillers, demolition material, solid rocket motors, liquid propellants, cartridges, pyrotechnics, mines, bombs, warheads, grenades, and components of assembled kits, missile, and space systems. These are also referred to as munitions. Under United Nations system explosive cargo is hazard class 1.

Freight Container.—A reusable transportation conveyance designed and constructed to permit loading, lifting, and movement of consolidated air eligible packages in unit form. Includes internal slingable units (ISUs), quadruple containers (QUADCONS), military vans (MILVANS), and similar military and commercial unit load devices authorized for air transportation.

Hazard Classes.—Hazardous materials that are grouped together based on similar chemical and physical characteristics.

Hazardous Cargo.—Hazardous materials in quantities that require their identification on flight plans, messages, and as part of arrival/departure notifications. This information is used for selecting an appropriate aircraft parking location and/or to alert emergency response forces of hazards involved in the event of a mishap.

Hazardous Materials.—Substance or materials that are determined to be capable of posing an unreasonable risk to health, safety, and property during movement through the DTS. These materials are also sometimes referred to as "HAZMAT" or dangerous goods.

Hazardous Substance.—A material that, if spilled, could adversely affect the environment. Also see "Reportable Quantity."

Hazardous Waste. Any material that is discarded, manufactured, or produced as a by—product or no longer serves its intended purpose and has characteristics of ignitability, corrosivity, reactivity, or toxicity as defined by 40 CFR 261.3. Also see Transporter's Number.

Inhalation Hazard Zones.—Identifies hazardous materials (gases and liquids) in relation to the inhalation toxicity of the material or substance into four zones. Zone A represents the greatest toxicity hazard, Zone D the least.

Identification (ID) Number.—A four digit number preceded by "ID"; i.e., ID 8004, used to identify those hazardous materials or articles, not designated by the UN or DOT, which may pose a hazard during air transportation. These numbers are used during commercial air transportation. ID numbers are acceptable for military airlift.

Individual Issues (Basic Combat Load).—Amount or types of munitions required and controlled by an individual to perform his/her unit's designated operations committed mission.

Inner Packaging/Receptacle.—A container that requires an outer packaging to be acceptable for air transportation.

Interim Hazard Classification (IHC).—Temporary classification assigned by the DOD to commercial explosives or to explosives under development in order to satisfy hazard

communication requirements during military transportation and storage. A copy of the IHC accompanies each shipment until a final hazard classification is determined.

Kilopascal (KPA).—Internationally acceptable measurement of pressure.

Kit.—A set of materials or articles used for specific purpose, shipped as a single item and assigned a single stock number. Items, by hazard classification, within the kit may or may not be compatible.

Leaker. A vehicle, unit of self—propelled equipment, or support equipment which has been determined by testing or by history to have a high risk of having an in-flight leak of fuel or other hazardous materials. Items identified as leakers require restrictions on fuel quantity within the item and may also require specific loading configurations. See *Attachment 1* for a list of items known to be leakers.

Limited Quantities (LTD QTY).—Certain types of hazardous materials, in small quantities, that may be placed in good quality packaging and not tested or marked IAW Performance Oriented Packaging requirements. Certification and compatibility requirements still apply.

Net Explosives Weight (NEW).—Total quantity of all explosive material to include primary explosives, secondary explosives, pyrotechnics, and propellants in a container or package.

North America (NA) Number. A four—digit number preceded by "NA" used to identify a hazardous material; i.e., NA 2291. The number may be cross-referenced to a specific PSN. NA numbers are only acceptable within the United States and Canada.

Outer Packaging.—The outer protection of a composite or combination package.

Overpack.—(1) One or more packages placed in a single container for convenience of handling or storage. (2) Placement of containers which do not meet pressure requirement in an approved outer package.

Packaging Group (PG). Indicates degree of danger presented by a hazardous material. Roman numerals, I, II, and III are used to represent "Great," "Medium," and "Minor" danger, respectively. PG designation determines type and level of packaging required for a specific hazardous material.

Participant. Unit—move personnel directly attached to and moving with a deploying unit and their associated cargo as part of a tactical, contingency, or emergency operation or an exercise. Also, may be applied to non-channel airlift missions (e.g. Special Assignment Airlift Missions (SAAM) providing an exclusive service for movement of unit personnel and their associated cargo). Non-unit personnel are considered passengers.

Passenger Prohibition ("P") Codes.—Identifies whether passengers are acceptable to be carried on aircraft with hazardous materials.

Performance Oriented Packaging (POP/UN SPECIFICATION).—Type of packaging based on its ability to perform to a specified level of integrity during performance tests. Packages must pass drop, leak, pressure, stacking, and vibration tests, as appropriate, for the type of contents.

Proper Shipping Name (PSN).—The name assigned to a hazardous material to describe an article or substance on shipping documents, packaging, flight notifications, etc.

Protected Cargo.—Items that are required to be secured, identified, segregated, handled, or accounted for in such a manner as to ensure their safeguard or integrity. Protected cargo may be either classified, controlled, pilferable, or sensitive items.

Remote Parking.—Commonly called a "Hot Spot." An aircraft parking location that is so situated as to minimize damage to property and injury to personnel if a mishap should occur during loading/unloading of certain hazardous materials or aircraft handling.

Reportable Quantity (RQ).—Specified quantities of a hazardous substance that, if spilled, may require reporting through environmental channels.

Secondary Hazards.—An additional hazard that is part of or attached to a hazardous material or item, i.e., fuel in a vehicle, hazardous materials in a life raft, etc.

Single Packaging.—A package/container designed and tested to contain a hazardous material without inner packaging.

Special Provisions. Codes from AFMAN 24—204(I) used to further identify or provide amplifying information concerning a proper shipping name.

Subsidiary Risk. A hazardous material which upon classification is determined to meet criteria for more than one class. In such cases, a primary hazard classification and a subsidiary risk is assigned.

Tactical/Contingency. See Chapter 6.

Technical Name. A chemical or scientific name used to further identify a generic or Not Otherwise Specified (N.O.S.) proper shipping name; i.e., Corrosive Liquids N.O.S. (Caprylyl Chloride).

Toxic Chemical Ammunition. Includes nerve, blister, and incapacitating (physiological) or other chemical warfare agents with or without explosive components. Normally, such items will be found in Compatibility Group K. This term does not apply to binary chemical weapons when components are transported on separate aircraft.

Toxic Substances. Hazardous materials, other than chemical ammunition, which pose a highly toxic inhalation, ingestion, or absorption hazard. This includes Division 2.3, Zone A, poison gases and Division 6.1, Packing Group (PG) I, poison liquids.

Transportation Control Number (TCN). A 17—position alphanumeric data element assigned to control a shipment throughout the DTS.

Transporter's Number.—Approval by State or Federal Environmental Protection Agency (EPA) to transport hazardous waste. EPA Transporter's Number is assigned to the airlift wing's home base. Enter your base's number _____ for future reference. Flying units assigned to bases without an assigned number may not accept hazardous waste for transport into or out of domestic locations.

United Nations (UN) Serial Number. A four—digit number preceded by "UN" used to

identify a hazardous material, i.e., UN 3166. The number may be cross—referenced to a specific PSN UN numbers are acceptable worldwide for all modes of transportation.

Attachment 2

ITEMS KNOWN TO LEAK DURING SHIPMENT BY AIR (LEAKER LIST)

Figure A2.1. Items Known to Leak During Shipment by Air

The following items are known to be "Leakers."	
ITEM	SHIPPING REQUIREMENTS
MC-1A and MC-2A Compressors.	Must be shipped drained. NOTE: Model 2MC-1A (NSN 4310-01-060-0642) is not a "Leaker." Shipper must include number in Key 16 of "Shipper's Declaration for Dangerous Goods" and stencil "2MC-1A" on the item.
MA-3 Air Conditioner.	Must be shipped drained.
H-1 Heater.	Must be shipped drained.
USCSMK Boston Whaler Boats	Must be shipped drained. NOTE: Unless rigged for airdrop, all boats and watercraft, except for the Navy Patrol Light (PBL), must be drained.
Marine Corps River Assault Craft (RAC)	Must be shipped drained.
All Commercial Support Equipment (CSE)	Must be shipped drained. Exception: Self-propelled commercial vehicles will have sufficient fuel in tank to facilitate on/off-loading operations. During Emergency operations (Chapter 3) fuel tanks may be one-half full based on operational requirements